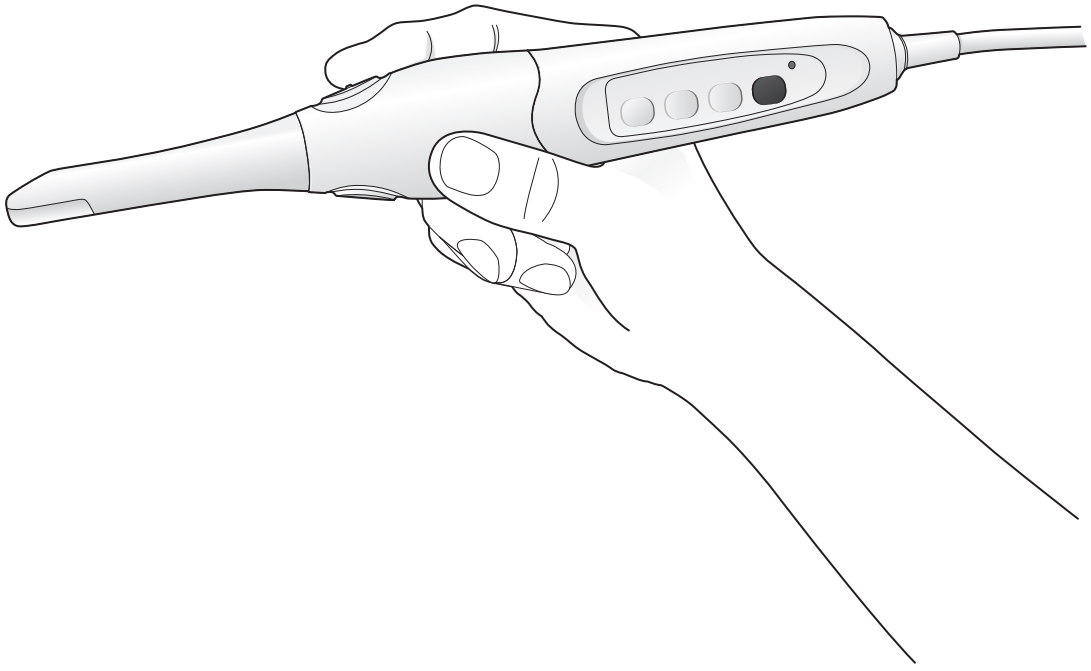
Panasonic®

Operating Instructions
Intraoral Camera

Model No. **EJ-CA01UP**



- Please read these instructions carefully before using this product, and save these instructions for future use.
- The information contained in the Safety Precautions (P. 4 – P. 7) is important for the safe and reliable operations of the product. Read and understand the information thoroughly before attempting to set up and operate the product.
- Compliant with medical safety standards
  This design complies with the UL 60601-1 and EN 60601-1 safety standards, meeting the requirements for use in the medical field.

Customer's Record

The serial number of this product can be found on the Logo sheet of Camera handpiece. You should note this serial number in the space provided below and retain this book, plus your purchase receipt, as a permanent record of your purchase to aid identification in the event of theft or loss, and for Warranty Service purposes.

Model Number _____ **Serial Number** _____

Introduction

This Intraoral Camera captures and displays inside of the patient's mouth.
This product achieves accurate color reproducibility inside the mouth, and it helps you to capture clear images the first time around with its auto focus and stabilization correction features. The product is intended to be used to assist in providing explanations to your patients. Captured pictures are not intended to be used for an image diagnosis.
Connect this product to a PC or a TV monitor.

Connecting to a PC

Use the Dental@i Viewer software on the CD-ROM (supplied) to browse and record still pictures or moving pictures. Still pictures can also be printed by connecting a printer to the PC.

Connecting to a TV monitor

Use the operation button of the Camera handpiece to capture or to playback images. There is a 4 split-screen that allows multiple still pictures to be displayed simultaneously during playback.

Note

To the customer: This product is a medical device, and the user must be completely familiar with its operation. Read thoroughly each of the items in the Operating Instructions.

To the dealer: After attaching the product, be sure to adequately explain each of the items in these Operating Instructions to the customer to ensure safety.

This product is intended to only dental treatment
US Federal law restricts this device to sale by or on the order of a ____", the blank to be filled with the word "physician", "dentist", "veterinarian", or with the descriptive designation of any other practitioner licensed by the law of the State in which he practices to use or order the use of the device.

Table of Contents

Read “Safety Precautions” (P.4 – P.7) thoroughly before use.

Introduction 2

Safety Precautions

Safety Precautions (These must be observed) 4

Information for your safety 8

Preparation

Before using 10
Accessories 11
Optional Accessories 12
Part names and functions 13
Product display symbols 16
Fitting / Removing the Disposable cover 17

Using with a PC

Installing the software 19
Connecting to a PC 22
Starting the software 23
Capturing images on a PC 24
Playing back images on a PC 24

Using with a TV Monitor

Connecting to a TV monitor 25
Capturing images on a TV monitor (Still pictures only) 26
Playing back images on a TV monitor 27

Other

Maintenance 28
Troubleshooting 29
Specifications 30
EMC Relevant Information 32

When using the product with a PC

For details on how to use the product when it is connected to a PC, refer to the software Operating Instructions (PDF file).

Safety Precautions (These must be observed)

The following symbols describe the need to observe certain content in order to prevent human injury or damage to property.

■ **These describe and classify the degree of injury or damage that occurs with incorrect use.**

⚠ **WARNING**	This indicates "content that involves a risk of serious injury or death".
⚠ **CAUTION**	This indicates "content that involves a risk of injury or damage to property".

■ **The following symbols describe content to be observed. (The following symbols are examples.)**

⊘	This indicates "content that must NOT be performed".
❗	This indicates "content that MUST be performed".

Equipment connected to this product must conform to IEC standards (i.e. IEC 60601-1 for Medical electrical equipment, IEC 60950-1 for Information technology equipment, IEC 60065 for Audio, video and similar electronic apparatus).
In addition, the combination and installation shall conform to IEC 60601-1.
Any person who connects this product is responsible for ensuring that the system conforms to IEC 60601-1-1.
To conform to IEC 60601-1, equipment connected to this product should be connected to the power supply via an isolation transformer and have at least basic insulation.
When connecting to other devices, there is a risk that the leakage current may increase.
If there is anything that you do not understand, please contact the dealer where this product was purchased.

⚠ WARNING

❗ **Use the Intraoral Camera after fitting the specified Disposable cover.**

Using the Intraoral Camera without fitting the specified Disposable cover could cause infection, device breakage and accidental ingestion of broken parts.

Use a new Disposable cover for each patient.

Reusing the Disposable cover could cause infection.

❗ **Before and after using the product, wipe it with gauze or a similar material containing ethanol for disinfection.**

Using the product in an unsanitary condition could cause infection.

⊘ **Do not use a torn Disposable cover.**

If you use a torn Disposable cover, it may cause infection or the Camera handpiece malfunction.

Do not use a damaged Camera handpiece.

This could cause accidental ingestion of damaged parts or electric shock.

⚠ WARNING

In the following situations, stop using it and disconnect the power plug;

— smoke rise from the product,

— the product is abnormally hot,

— the product smells burnt,

— abnormal noise is heard from the product,

— if water or foreign bodies get inside the product,

— the external case of the product is damaged.

Continuing to use the product could cause fire or electric shock.

- Use an electrical outlet for the power plug that allows the plug to be easily reached by hand.

If there is lightning or thunder, do not touch the product or the devices to which it is connected (PC, TV monitor, power plug).

This could cause electric shock.

Only the included AC adaptor (LSEQ0879) and AC cord (K2CA2YY00116) should be used.

Using an AC adaptor other than the one supplied with this product could cause electric shock, smoke and fire.

Do not use in excess of the rating for the electrical outlet or wiring device.

Exceeding the rating by using too many plugs in the same outlet or wiring device could cause a fire due to heat.

Do not damage the AC cord, AC adaptor, Camera cable, USB cable, or Video cable.

(Do not scratch, modify, put near hot devices, forcibly turn, twist, tug, place heavy items upon, or knot).

Using these when damaged could cause fire, electric shock or short-circuiting.

- For repairs of the cord or cable, please contact your dealer.

Do not directly touch the product for a long period of time with the power turned on.

The temperature of the LED light exceeds 41 °C (after several minutes of use). In order to prevent burns caused by heat, be careful not to let the LED light part continuously touch the inside of the patient's mouth.

Direct, prolonged contact with the hot parts of the product could cause low-temperature burns*.

* Persons that have poor blood flow (vascular disorders, blood circulation impairment, diabetes, high blood pressure) or persons that have weak skin sensation, etc. tend to get low-temperature burns.

⚠ WARNING

When the LED light of the product is illuminated, do not look directly into the LED light from close-up, and do not shine it in a person's eyes.

This product uses IEC 60825-1 class I LED. Intense light could hurt the eyes.

Do not use this product near persons that use pacemakers and other similar devices.

The radio waves from this product could affect the operation of pacemakers, etc.

Do not use the Camera handpiece when it is wet.

This could cause electric shock or product malfunction.

Do not pour water on or wet the product.

Water getting inside the product could cause fire, electric shock, or product malfunction.
If water gets inside the product, contact your dealer.

Do not connect or disconnect the power plug with wet hands.

This could cause electric shock.

Do not disassemble or modify the product.

The inside of the product contains high-voltage parts that could cause electric shock.

- Order repairs and inspections of the inside of the product from your dealer.

Securely insert the power plug into the outlet.

An incompletely inserted plug could cause electric shock or fire due to heat.

- Do not use damaged plugs or loose electrical outlets.

Periodically remove dust and other particles from the power plug.

If dust or other particles collect on the plug, humidity, etc. could impair insulation and cause a fire.

- Disconnect the power plug and wipe with a dry cloth.

⚠ CAUTION

When performing maintenance or when the product is not to be used for a long period of time, disconnect the power plug to ensure safety.

Leaving or storing while plugged in could cause insulation degradation, short-circuiting, etc., which could cause a fire.

Do not place the product in an unstable location (On an uneven table or an incline, etc.).

If the product falls, this could cause injury or product malfunction.

When disposing of this Intraoral Camera, you must obey the laws applicable in your area and country and comply with the regulations of your hospital.

Information for your safety

General

- The switching power supply is intended use for medical electrical equipment purpose, not direct to contact to patient.
- Please read these safety instructions carefully.
- Please keep this Operating Instructions for later reference.

To prevent the damage

- Do not drop or knock this product or put a lot of pressure on it. This may damage this product.
- Do not expose this product to excessive heat or direct sunlight as to avoid the risk of fire.
- Handle this product with care. Rough handling will damage its internal components.

Use this product in the appropriate position

- For pluggable equipment, the socket outlet shall be installed near this product and shall be easily accessible.
- To avoid risk of electrical damage, keep this product away from fluids and chemicals.
- Do not use this product near inadequately shielded medical devices.
- Do not use this product near electromagnetic equipment, radio transmitters or high voltage lines.

For cleaning or storage

- Please disconnect this product from AC outlet before cleaning. Do not use liquid or sprayed detergent for cleaning. Use moisture sheet or cloth for cleaning.
- Please keep this product from humidity.

Contact to the dealer

- Do not remove any parts of this product. Contact an authorized dealer in your area.
- If one of the following situations arises, get this product checked by service personnel:
  - The AC cord or plug is damaged.
  - Liquid has penetrated into this product.
  - This product has been exposed to moisture.
  - This product has not worked well or you can not get it work according to Operating Instructions.
  - This product has dropped and damaged.
  - If this product has obvious sign of breakage.

- For U.S.A. -

FCC STATEMENT:

Note:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

FCC Caution:

To assure continued compliance, follow the attached installation instructions and use only shielded interface cable with ferrite core when connecting to computer or peripheral devices. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Declaration of Conformity
Trade Name: Panasonic
Model No.: EJ-CA01UP
Responsible party: Panasonic Corporation of North America
One Panasonic Way, Secaucus, NJ 07094
Support Contact: Panasonic Factory Service Center
Panasonic Service and Technology Company
410B Airport Road
Elgin, IL 60123-9333
Attention: Intraoral Camera

In the USA
FOR SERVICE CALL TOLL FREE
1-800-528-6747

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Before using

Handling this product

- Do not exert strong shocks or vibrations on the product by dropping it, hitting it, etc. Also, do not apply strong pressure to the product. This could cause the product to malfunction, impossible recording, or damage to occur to device parts such as the lens.
- When operating or transporting this product, hold the main part of the Camera handpiece. If the product is held dangling by grabbing the Camera cable, the Camera handpiece could hit the floor or other medical devices, causing it to become damaged or to malfunction.
- Do not touch the lens or terminal with hands. Also, be careful to prevent liquid and foreign materials from getting into the product from the lens or button gaps.
- The supplied cords and cables must be used.
- Do not use devices that emit electromagnetic radiation near this product. The electromagnetic radiation emitted by communication devices such as mobile phones, PHS, transceivers, etc. can affect this device and lead to glitches that cause the product to malfunction.
  In a clinical setting, instruct that these communication devices be turned off.
- Do not use lights that emit electromagnetic radiation near this product. The electromagnetic radiation emitted from an inverter operation light (film viewer, fluorescent light, etc.) could affect the image.

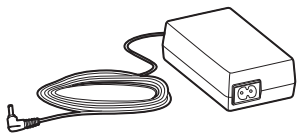
Indemnity about recorded content

- Panasonic does not accept any responsibility for damages directly or indirectly due to any type of problems that result in loss of recorded content, and does not guarantee any content if recording does not work properly.

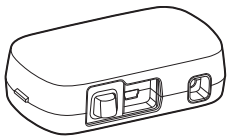
Accessories

Check the accessories.
The listed part numbers are current as of May 2011.

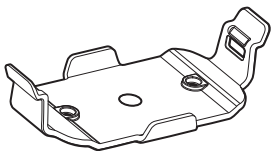
☐ **AC adaptor • • • 1**
LSEQ0879



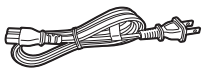
☐ **Cable box • • • 1**
LSEQ0884



☐ **Cable box holder • • • 1**
LSKM2893

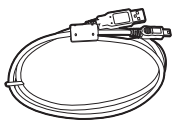


☐ **AC cord • • • 1**
K2CA2YY00116



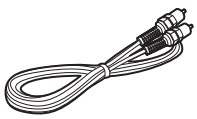
*1.5 m (4.92 ft)/Unshielded

☐ **USB cable • • • 1**
K1HY04YY0045



*5 m (16.4 ft)/Shielded with ferrite core

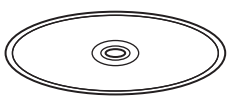
☐ **Video cable • • • 1**
K2KYYYY00065



*5 m (16.4 ft)/Shielded

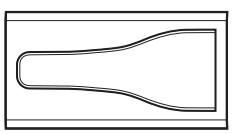
☐ **Camera stand • • • 1**
LSKM2894

☐ **CD-ROM • • • 1**
LSFT0801

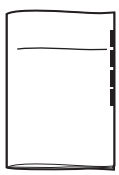


*The software and its Operating Instructions

☐ **Disposable cover (20 sheets) • • • 1**
LSFB0027



☐ **Operating Instructions • • • 1**
LSQT1591



☐ **Warranty • • • 1**
LSQA0243

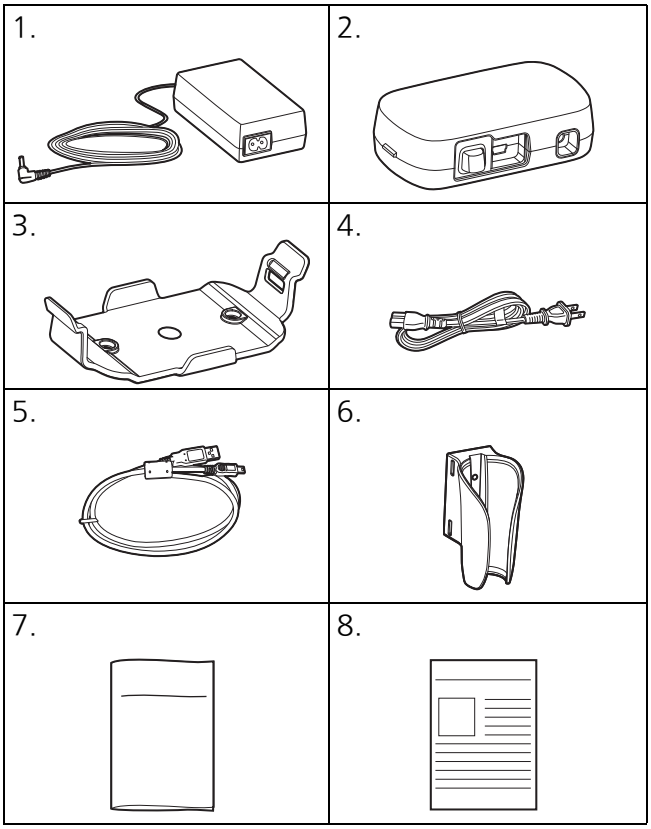
Optional Accessories

The following optional accessories can be used with this product.
The listed part numbers are current as of May 2011.

▮ Station Kit (Model No.:EJ-CK01UP)

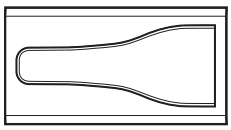
Contents

1. AC adaptor • • • 1
   LSEQ0879
2. Cable box • • • 1
   LSEQ0884
3. Cable box holder • • • 1
   LSKM2893
4. AC cord • • • 1
   K2CA2YY00116
5. USB cable • • • 1
   K1HY04YY0045
6. Camera stand • • • 1
   LSKM2894
7. Operating Instructions • • • 1
   LSQT1647
8. Warranty • • • 1
   LSQA0248



▮ Disposable Cover (Model No.:EJ-CD01UP)

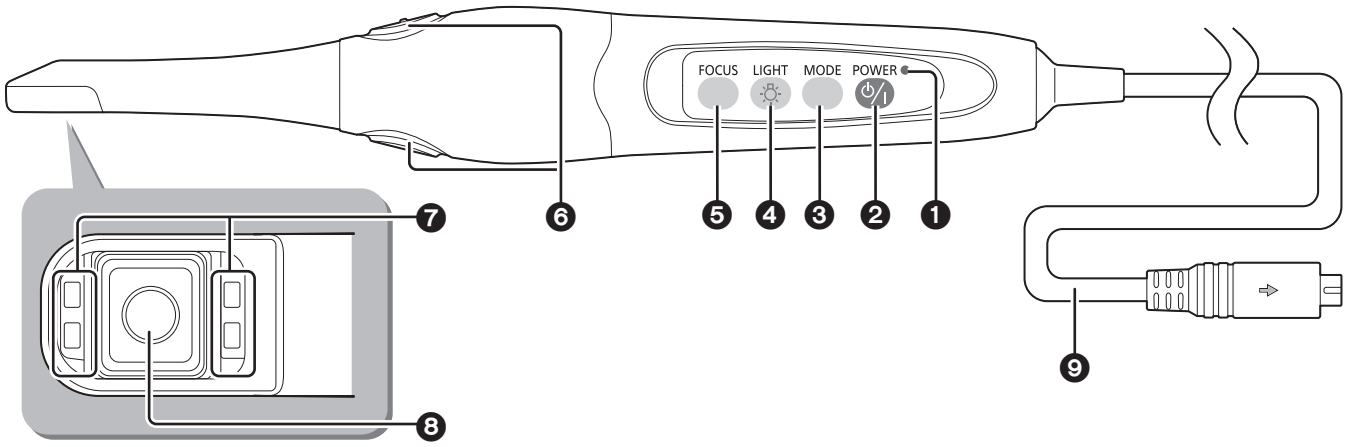
200 sheets



Part names and functions

Camera handpiece

In this document, the main unit part of the product (figure below) is called the Camera handpiece. (Excluding the cable)



❶ Power lamp

The lamp turns on when the power turns on and turns off when the power turns off.
Operating Mode: The LED lights green.
Standby Mode: The LED is turned off.

❷ POWER button

Turns the power on or off.
If button operations are not performed for 5 minutes, the power will automatically turn off. (Automatic power off)
Time until the power is turned off automatically is different depending on the status of usage.

- When using this product connected to a TV monitor, the images saved in the internal memory are deleted at the same time that power off occurs. (P. 26)

❸ MODE button

This switches the modes of the product as shown below.
Live mode → Special mode → Playback mode → Live mode (return)

- When using the product connected to a PC, the MODE button can only switch between Live mode and Special mode. Use the PC to switch between record and playback mode. For details, refer to the software Operating Instructions (PDF file).
- When using the product connected to a TV monitor, Playback mode displays the captured image. (P. 27)
- When the mode is switched, the corresponding icon is displayed in the upper left of the screen for several seconds.

Live mode (icon: [ ])

- This mode is initial setting when turning the power on. It is used when performing normal image capture.

Special mode (icon: [ ])

- This is used to capture the image of dark regions where it is difficult for the light to reach using Live mode.

❹ LIGHT button

Turns the LED light on or off. When turning the power on, the LED light automatically turns on.

- When in Special mode, the LED light cannot be turned off. When the LIGHT button is pressed, the operation deactivation icon ( ) is displayed in the upper left of the screen for several seconds.
- When using the product connected to a TV monitor, the button operation in Playback mode displays the next image. (P. 27)

Part names and functions − Continued

Note:

- When capturing extraoral images, turn off the LED light. Failure to do so could result in images becoming unclear.

❺ FOCUS button

Enabled only with Live mode. Disabled with Special mode.
This switches the focus range as follows. (Switch between auto focus and zone focus as shown in the figure below.)

AF → → → → AF (return)

The product automatically focuses using the auto focus feature. When capturing objects that have less contrast etc., it may be difficult to focus automatically. If this happens, press the FOCUS button to switch the zone focus position.
When the zone focus position is switched, the corresponding icon is displayed in the upper-right side of the screen for several seconds.

Auto focus	
AF	: Focus is adjusted automatically

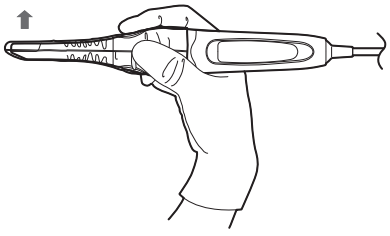
Zone focus	
	: Appropriate for capturing close-up images
	: Appropriate for capturing 1 to 3 teeth images
	: Appropriate for capturing all of the teeth

- When the FOCUS button is pressed during the Special mode, the operation deactivation icon (⃠) is displayed for several seconds in the upper left of the screen.
- It is automatically set to Auto focus right after the power of this product is turned on, and right after when the mode is switched to Live mode from Special mode and Playback mode.

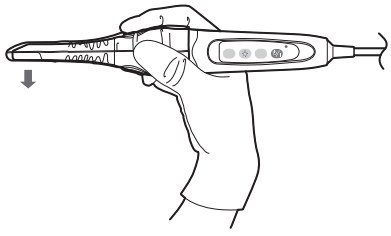
❻ Shutter button

This captures still pictures. The button is in 2 places, top and bottom.
The button that is easiest to press can be used according to the direction of the lens.

When the lens is turned upward



When the lens is turned downward



❼ LED light

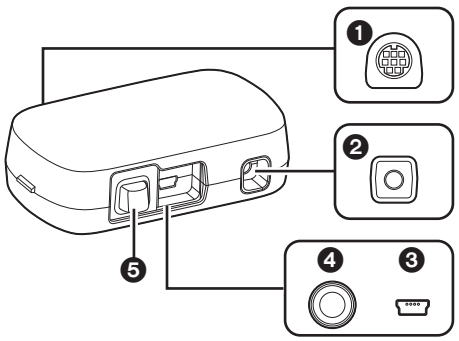
The light that illuminates what is being captured.

❽ Lens

This is the Lens which captures still and moving pictures. The front surface of the lens is protected by cover glass.

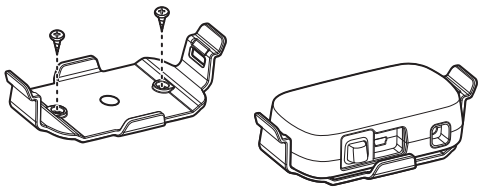
❾ Camera cable

Cable box



❶ Camera handpiece connection terminal
❷ DC IN terminal
❸ USB terminal
❹ VIDEO OUT terminal
❺ Terminal cover
Slide the cover to the left to access the USB terminal or slide the cover to the right to access the VIDEO OUT terminal.

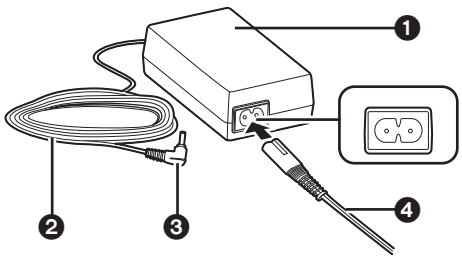
▮ Use by attaching to the Cable box holder



It is possible to fasten the Cable box in place. Fasten in a flat location using 2 commercially-available screws.
(Screws are not supplied)

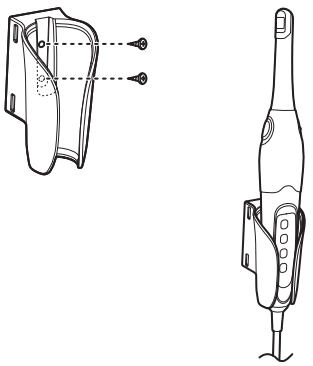
* Recommended screw size is M3 size.
* Depth of the screw holes of the Cable box holder is 2 mm (0.08"). (2 places)
  Use this as a reference to select the length of the fastening screw.
* Fasten the Cable box holder where there is enough strength.

AC adaptor



❶ AC adaptor
❷ DC cord
❸ DC plug
❹ AC cord

Camera stand



Place the product in the stand when it is not being used.
Fasten the Camera stand to a wall, etc., using 2 commercially available screws in the direction as shown in the figure at left.
(Screws are not supplied)

* Recommended screw size is M3 size.
* Depth of the screw holes for the Camera stand is 9 mm (0.35") for the top hole and 9.5 mm (0.37") for the bottom hole.
  Use this as a reference to select the length of the fastening screw.
* Fasten the Camera stand where there is enough strength.

Product display symbols

This describes the symbols displayed on the main unit of the product and the meaning of those symbols.

	Type BF Applied Part This symbol indicates this product complies with requirements for the BF type applied part according to IEC 60601-1.
	European Commission Directive 2002/96/EC related to the disposal of electric and electronic devices applies to this product.
	The Class II insulation symbol (square within a square) indicates that this product has been evaluated and tested to comply with Class II insulation requirements.
	LED light
	USB terminal
	DC plug connection terminal of AC adaptor.
	POWER button

Fitting / Removing the Disposable cover

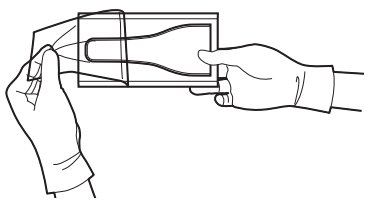
To prevent infection, damage to the product, and accidental ingestion of parts, the specified Disposable cover must be used.

Observe the following when fitting or removing the Disposable cover.

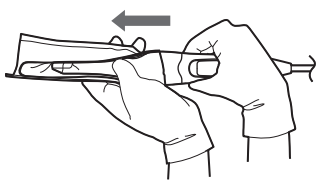
- Use a new Disposable cover for each patient. The Disposable cover must not be reused.
- Check that the Disposable cover is not torn before use.
- Do not use the Camera handpiece when it is wet. This could cause infection or product malfunction. Before fitting the Disposable cover, wipe the Camera handpiece with a clean, soft cloth, such as gauze.
- Condensation on the Disposable cover could cause images to be unclear. If the image is unclear, remove the product from the patient's mouth, and wipe the part of the Disposable cover that covers the lens with a clean, soft cloth, such as gauze, then use.
- For reasons of hygiene, wear gloves when fitting and removing the Disposable cover, and dispose of used covers in an appropriate manner.
- When handling a Disposable cover with powdered gloves, it may be difficult to fit and remove the cover because the gloves slip. Use non-slip gloves and powder-free gloves.
- Store Disposable covers in a cool location away from sunlight.

Fitting

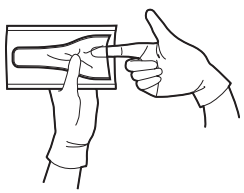
1 Remove the film that covers the mounting paper.



2 Turn the Camera handpiece Lens upward to insert the camera to the Disposable cover.

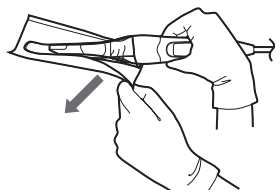


- Before inserting, leave ample room for the opening part of the Disposable cover.

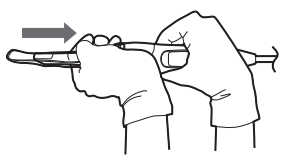


- Insert the camera to the cover so that the Shutter button is almost covered.

3 Hold the lower part of the mounting paper to remove the Disposable cover from the mounting paper.



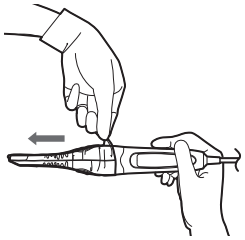
4 Pull the Disposable cover toward the Shutter button, and fit it from the front edge to the Lens so that there is no slack.



Fitting / Removing the Disposable cover– Continued

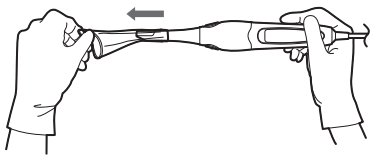
Removing

1 Pinch the hem of the Disposable cover.



2 Turn the Disposable cover toward the front end of the Camera handpiece.

- Turn the Disposable cover over.



Purchasing additional Disposable covers

Contact the dealer for information related to purchasing additional Disposable covers.

Installing the software

Dental@i Viewer is software to save, play back and manage of Intraoral Camera images on your PC.

Note:

- Software does not support Mac OS.

System requirements

Supported PCs	IBM PC/AT compatible personal computer (IEC 60950-1 applicable products)
Supported OS	Any pre-installed English version of: Microsoft® Windows® 7 Home Premium and Service Pack 1 Microsoft® Windows® 7 Professional and Service Pack 1 Microsoft® Windows® 7 Enterprise and Service Pack 1 Microsoft® Windows® 7 Ultimate and Service Pack 1 Microsoft® Windows Vista® Home Basic and Service Pack 1/Service Pack 2 Microsoft® Windows Vista® Home Premium and Service Pack 1/Service Pack 2 Microsoft® Windows Vista® Ultimate and Service Pack 1/Service Pack 2 Microsoft® Windows Vista® Business and Service Pack 1/Service Pack 2 Microsoft® Windows® XP Home Edition Service Pack 2/Service Pack 3 Microsoft® Windows® XP Professional Service Pack 2/Service Pack 3
CPU	For capturing still pictures: Intel® Pentium® III 800 MHz or higher For capturing moving pictures: Intel® Pentium® 4 2 GHz or higher
Memory	For capturing still pictures: 256 MB or higher For capturing moving pictures: 1 GB or higher
Display	High Color (16 bit) or higher (32 bit or higher is recommended) Desktop space 1 024 × 768 or greater (1 280 × 1 024 or greater is recommended) Video card that supports DirectX® 9.0c
Hard disk drive	Ultra DMA-33 or higher For capturing still pictures: 5 GB or greater of free space For capturing moving pictures: 20 GB or greater of free space
Required software	DirectX® 11 (Installed on Windows® 7) DirectX® 10.1 (Installed on Windows Vista® SP1) DirectX® 10 (Installed on Windows Vista®) DirectX® 9.0c (Installed on Windows® XP SP2/SP3)
Interface	USB terminal (high-speed USB (USB2.0))
Other	Mouse or mouse-like pointing device Keyboard

Limitations

- The supplied CD-ROM is for Windows®.
- Operation cannot be guaranteed for all PCs in the recommended environment.
- Windows® 3.1, Windows® 95, Windows® 98, Windows® 98 SE, Windows® Me, Windows NT®, Windows® 2000 and Windows® Server 2003/2008 are not supported.
- Operation on Windows® XP Media Center Edition, Windows® XP Tablet PC Edition, Windows Vista® Enterprise, Windows® 7 Starter and 64 bit operating systems cannot be supported.
- Operation cannot be supported on the NEC PC-98 series and compatible machines thereof.
- Operation cannot be guaranteed on an upgraded OS environment.
- A multi-boot environment is not supported.
- A multi-monitor environment is not supported.
- Depending on the PC environment used, frame dropping, noise, or a slowdown of software operation could occur when capturing moving pictures.

Installing the software − Continued

Limitations (Continued)

- Operation is not guaranteed when 2 or more of this product have been connected to 1 PC or when this product is connected with a USB hub or USB extension cable.

Trademarks / Licenses

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- Mac OS is a trademark of Apple Inc., registered in the U.S. and other countries.
- In addition, listed names, company names and product names are a trademark or a registered trademark of each company.

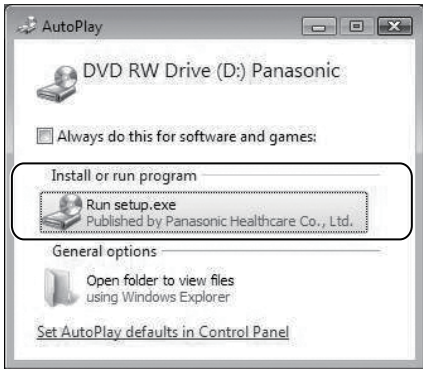
Installing

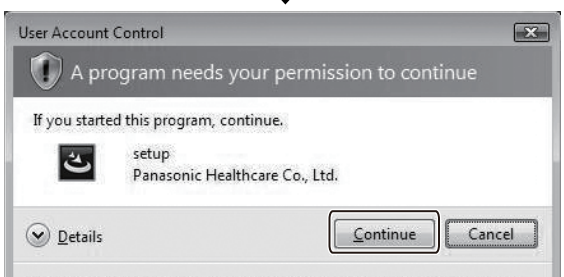
When installing software, log onto the PC with the user name “Administrator” (or with the user name of the user that holds computer administrator rights).

- Before inserting the CD-ROM, close all other running application software.
- The following explanations use Windows Vista® screens.

1 Insert the CD-ROM into the PC.

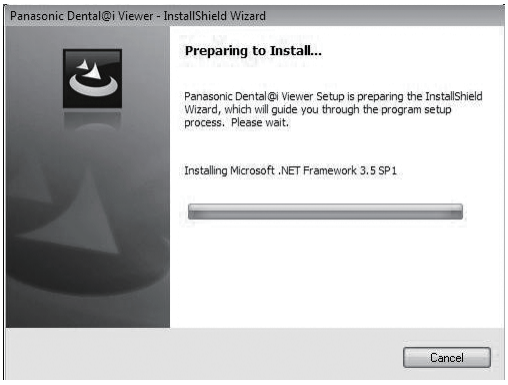
- The installation screen is automatically displayed. Click [Run setup.exe] → [Continue].
- If the installation screen is not automatically displayed, select [Start] → [Computer] (or double-click on [Computer] on the desktop) and double-click on [Panasonic].


AutoPlay
DVD RW Drive (D:) Panasonic
Always do this for software and games:
Install or run program
Run setup.exe
Published by Panasonic Healthcare Co., Ltd.
General options
Open folder to view files
using Windows Explorer
Set AutoPlay defaults in Control Panel



The .NET Framework 3.5 installation starts.

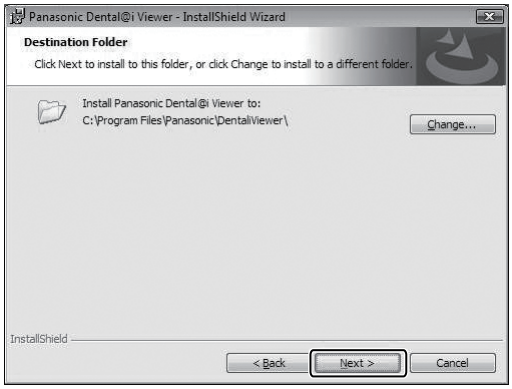
- Preparing to install may take time.
- The screen shown below will not be displayed if .NET Framework 3.5 is already installed on the PC being used.


Panasonic Dental@i Viewer - InstallShield Wizard
Preparing to Install...
Panasonic Dental@i Viewer Setup is preparing the InstallShield Wizard, which will guide you through the program setup process. Please wait.
Installing Microsoft .NET Framework 3.5 SP1
Cancel

2 Click [Next] to start installing Dental@i Viewer.

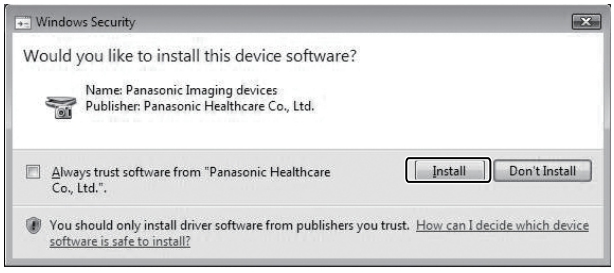
Panasonic Dental@i Viewer - InstallShield Wizard
Welcome to the InstallShield Wizard for Panasonic Dental@i Viewer
The InstallShield(R) Wizard will install Panasonic Dental@i Viewer on your computer. To continue, click Next.
< Back
Next >
Cancel

3 Select the installation destination folder, and click [Next].


Panasonic Dental@i Viewer - InstallShield Wizard
Destination Folder
Click Next to install to this folder, or click Change to install to a different folder.
Install Panasonic Dental@i Viewer to:
C:\Program Files\Panasonic\DentalViewer\
Change...
InstallShield
< Back
Next >
Cancel

4 Click [Install] to start the installation.

5 Click [Install] to install the driver software.

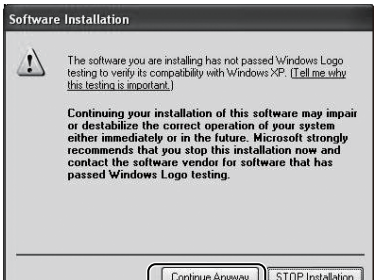

Windows Security
Would you like to install this device software?
Name: Panasonic Imaging devices
Publisher: Panasonic Healthcare Co., Ltd.
Always trust software from "Panasonic Healthcare Co., Ltd.".
Install
Don't Install
You should only install driver software from publishers you trust. How can I decide which device software is safe to install?

6 Click [Finish].

- A screen asking whether to create a shortcut is displayed. Click [Yes] to create a shortcut. Otherwise, click [No].
- After creating a shortcut, a screen inquiring whether or not to restart the computer is displayed. Click [Yes] to restart immediately. Otherwise, click [No].

Note:

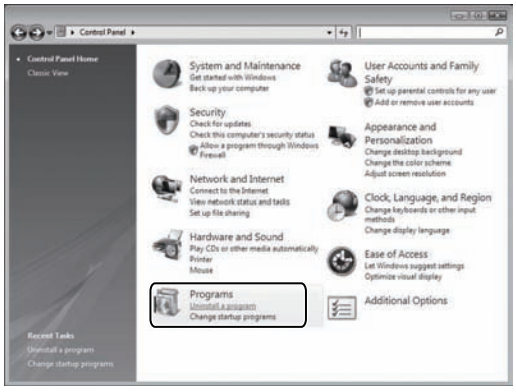
- On Windows® XP, the screen shown below is displayed during installation. Click [Continue Anyway] to continue the installation.


Software Installation
The software you are installing has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the software vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

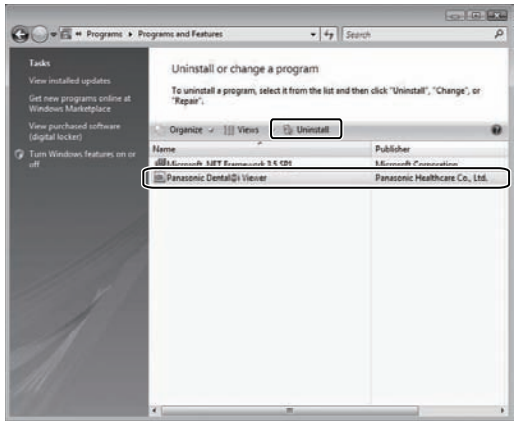
Uninstalling

Use the following method to uninstall the software.

1. Select [Start]→ [Control Panel] → [Uninstall a program].



2. Select [Dental@i Viewer] and click [Uninstall].

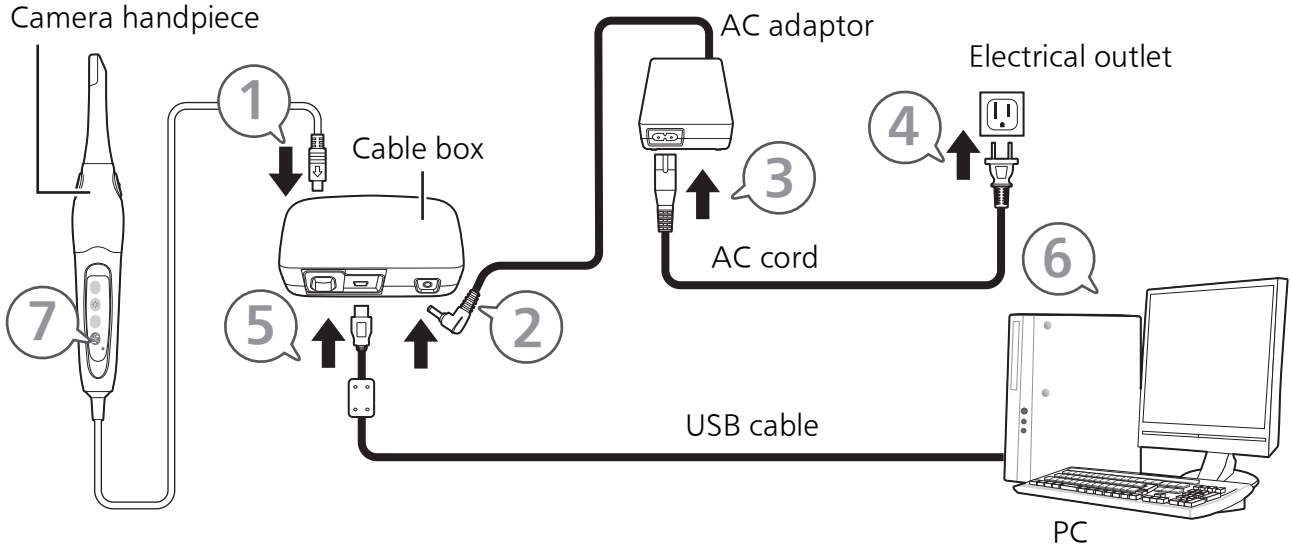


3. Click [Yes] after the confirmation message is displayed.

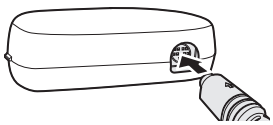
Note:

- The uninstalling procedure may vary depending on the PC. For details, refer to the operating instructions of the PC being used.

Connecting to a PC

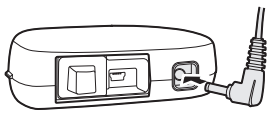


1 Connect the cable of the Camera handpiece to the Cable box.



2 Connect the DC plug of the AC adaptor to the Cable box.

- Insert the DC plug straight into the DC IN terminal of the Cable box.

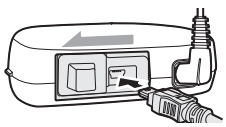


3 Connect the AC cord to the AC adaptor.

4 Insert the power plug into the electrical outlet.

5 Connect the Cable box and the PC using the supplied USB cable.

- Slide the Terminal cover of the Cable box in the direction of the arrow. Insert the USB cable in the USB terminal. Connect the other end of the USB cable into a USB terminal on the PC.



Note:

- Connecting to a TV monitor is not available while using the Intraoral Camera with a PC.

6 Turn the power to the PC on.

7 Press the POWER button on the Camera handpiece to turn the power on.

Note:

- Do not connect anything other than the supplied USB cable to the USB terminal of the Cable box.
- On Windows® XP, when [Found New Hardware Wizard] screen is displayed, select [Install the software automatically (Recommended)] to continue installation. If the [Hardware Installation] screen is displayed midway through installation, click the [Continue Anyway] button.

Starting the software

Double click the desktop shortcut icon to start the software.

- It is possible to start the software from the Windows start menu.
  [All Programs (Programs)] → [Panasonic] → [DentaliViewer]→ [Dental@i Viewer]

Read the software Operating Instructions

Procedure:
From the start menu, select [All Programs (Programs)] → [Panasonic] → [DentaliViewer] → [Operating Instructions].

For details on how to use the software, refer to the software Operating Instructions (PDF file).

- Adobe Reader is required in order to read the software Operating Instructions (PDF file).
  From the website below, download and install the Adobe Reader version that is compatible with the OS that you are using.
  http://get.adobe.com/reader/otherversions/

Capturing images on a PC

After Dental@i Viewer starts, the main screen is displayed on the PC. This document outlines and introduces the screen related to capturing operations and button names. For details on how to capture, refer to the software Operating Instructions (PDF file).

❶ Image display area

❷ Capture still picture button

❸ Capture moving picture button

*Changes to the stop moving picture capture button ■ during moving picture capturing.

1 Press the POWER button on the Camera handpiece to turn the power on.

- The image taken with the Intraoral Camera is displayed in the image display area of the main screen.
- The Live mode icon [ ] is displayed in the upper left of the image display area for several seconds, and the auto focus icon [AF] is displayed in the upper right of the image display area for several seconds.

2 Bring the Camera handpiece Lens close to the location that you would like to capture.

3 Switch the mode and adjust focus as necessary. (P. 13, P. 14)

4 Capture the image.

- The following methods are used for capturing images.

Still pictures

- Press the Shutter button.
- Click the capture still picture button on the main screen.
- Press the [F5] key on the keyboard.

Moving pictures

- Click the capture moving picture button on the main screen to start capturing, and click the stop moving picture capture button ■ to stop.
- Press the [F7] key on the keyboard to start capturing, and press the [F7] key again to stop.

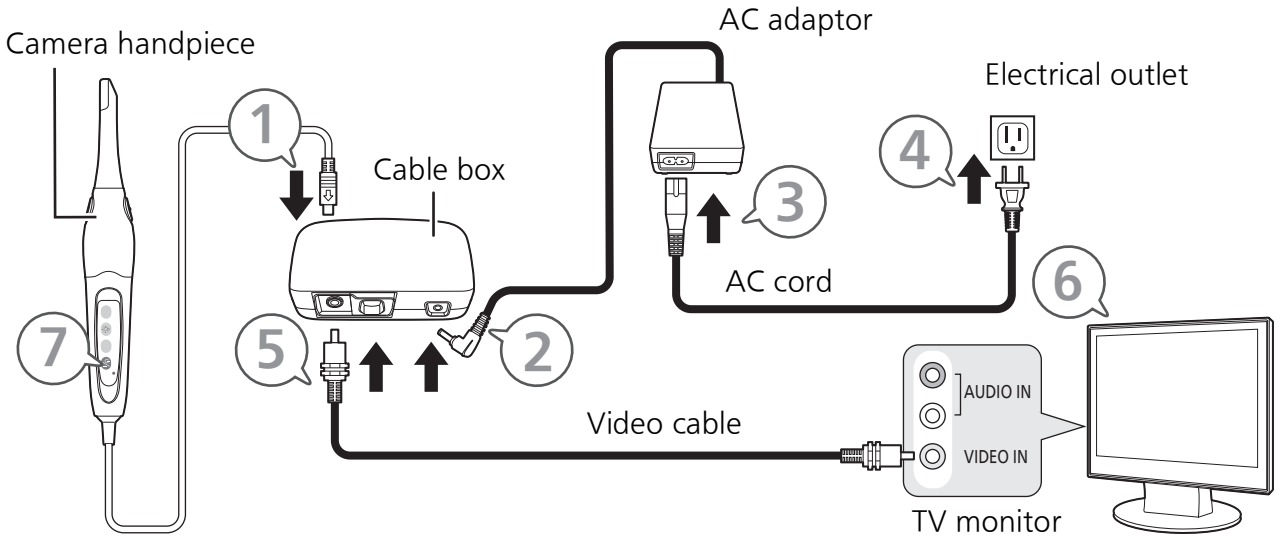
Note:

- When adjusting the color of an image, use the PC monitor to make the adjustments. For details, refer to the operating instructions of the PC monitor you are using.

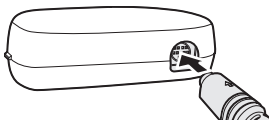
Playing back images on a PC

Use a PC to playback images. For details, refer to the software Operating Instructions (PDF file).

Connecting to a TV monitor

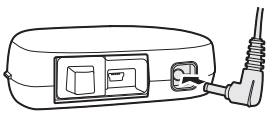


1 Connect the cable of the Camera handpiece to the Cable box.



2 Connect the DC plug of the AC adaptor to the Cable box.

- Insert the DC plug straight into the DC IN terminal of the Cable box.

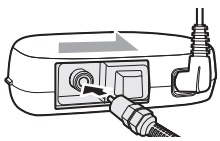


3 Connect the AC cord to the AC adaptor.

4 Insert the power plug into the electrical outlet.

5 Using the supplied Video cable, connect the TV monitor to the Cable box.

- Slide the Terminal cover of the Cable box in the direction of the arrow. Insert the Video cable into the VIDEO OUT terminal. Connect the other end of the Video cable to the video input terminal (yellow terminal) of the TV monitor.



Note:

- Connecting to a PC is not available while using the Intraoral Camera with a TV monitor.

6 Turn on the power to the TV monitor, and switch to external input.

- For details, refer to the operating instructions of the TV monitor.

7 Press the POWER button on the Camera handpiece to turn the power on.

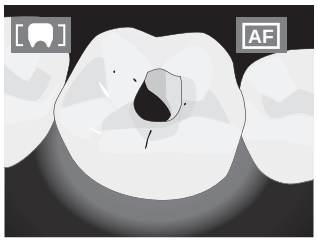
Note:

- Do not connect the Video cable to anything other than a TV monitor. If it is connected to a commercially available video selector or video printer, a normal image might not be obtained.

Capturing images on a TV monitor (Still pictures only)

1 Press the POWER button on the Camera handpiece to turn the power on.

- The image taken with the Intraoral Camera is displayed on the screen.
- The Live mode icon [ ] is displayed in the upper left of the screen for several seconds, and the auto focus icon AF is displayed in the upper right of the screen for several seconds.

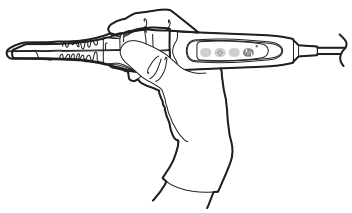


2 Bring the Camera handpiece Lens close to the location that you want to capture.

3 Switch the mode and adjust focus as necessary. (P. 13, P. 14)

4 Press the Shutter button to capture.

- The maximum number of still pictures that can be recorded in the internal memory of the Camera handpiece is 4. If 5 or more images are captured, the oldest still picture data is overwritten.



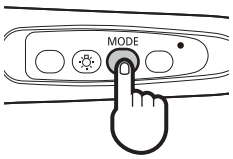
Note:

- If the Camera handpiece is turned off, the still pictures saved in the internal memory are automatically deleted. The still pictures are also deleted when the power is turned off by Automatic power off.
- The still pictures saved in the internal memory can not be transferred or displayed on PC.
- Image quality may differ depending on the performance of the TV monitor.
- When adjusting the color of an image, use the TV monitor to make the adjustments. For details, refer to the operating instructions of the TV monitor you are using.

Playing back images on a TV monitor

1 Press the MODE button to switch to Playback mode.

Each press of the MODE button, the mode changes as follows.



Live mode → Special mode → Playback mode

(Return)

Once the mode has been switched to Playback mode, the last captured image will be displayed.

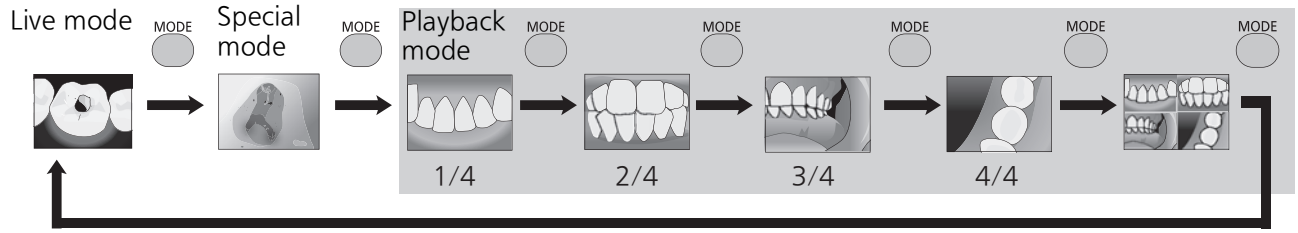
2 Press the MODE button or LIGHT button to switch the displayed image.

Display the prior (old) image → MODE button

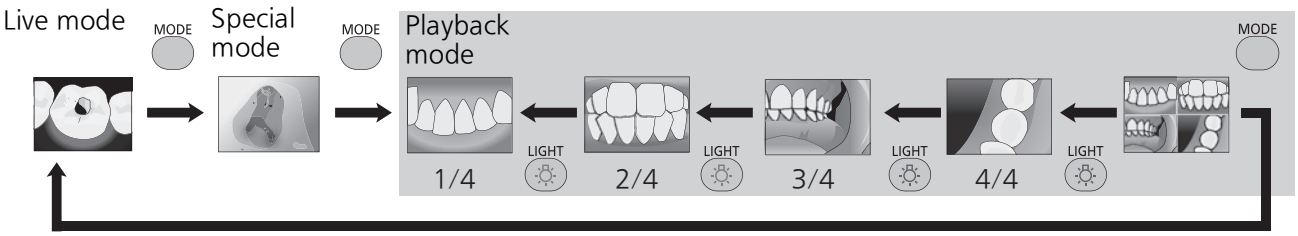
Display the next (new) image → LIGHT button

The screen switches as follows.

MODE button



LIGHT button

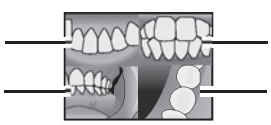


- When the displayed image is switched, the number indicating the order in which that image was captured and the number of images saved in the internal memory are displayed in the upper left of the screen for several seconds.

- If only 1 image has been saved, the image will not switch even if the LIGHT button is pressed. Also, even when the MODE button is pressed, a 4 split-screen will not be displayed and the mode will immediately return to Live mode.
- Images are displayed in a 4 split-screen in following order.
  The size of the screen parts does not change even for 2 or 3 saved images.

Last captured image (1/4)

2nd oldest image (2/4)



3rd oldest image (3/4)

Oldest image (4/4)

To exit playback

Maintenance

Daily maintenance

CAUTION: When performing maintenance, disconnect the power plug.

Main unit: Camera handpiece and Camera stand

- Use clean gauze containing ethanol for disinfection to wipe away the dirt. If the amount of ethanol for disinfection is too great when doing this, it might seep into the main unit from the connection parts, causing the product to malfunction. Also, do not disinfect by soaking or spraying.
- When the lens surface is dirty, a clear image cannot be captured. The lens must be cleaned. Gently wipe the lens surface.
- Because the quality or shape of the Camera handpiece could be altered, do not use the following disinfectants, solvents, detergents, etc.
  - Chemicals containing acetone, iodine, or phenols
  - Organic solvents such as benzine and thinner
  - Detergents such as kitchen detergent
- Also, if chemicals besides those used for daily maintenance get on the product, immediately wipe them away with ethanol for disinfection.
- Do not perform sterilization treatment using an autoclave or similar device. This could cause the product to malfunction.

Camera cable

Wipe with a soft cloth that contains a neutral detergent.

Accessories (Other than the Camera stand)

Wipe with a dry, soft cloth. At that time, remove all connection cables from accessories that are connected to the Camera handpiece, PC, or TV monitor. Remove the power plug of the AC adaptor from the outlet.

Daily check

Check that there are no chips, cracks or dirt in the Camera handpiece, Camera cable or Camera stand. Do not use damaged devices.
Before use, check that each part is operating correctly and safely. Not doing so could cause unexpected accidents or malfunction.

Setting / storage location

Use care in selecting the setting / storage location. Not doing so could cause the product to malfunction.

- The acceptable ranges for ambient temperature, relative humidity, and atmospheric pressure are shown below.

	Ambient temperature	Relative humidity	Atmospheric pressure
Usage conditions:	5 °C to 35 °C (41 °F to 95 °F)	10 % to 80 %	700 hPa to 1 060 hPa
Storage and transport conditions:	—10 °C to 60 °C (14 °F to 140 °F)	0 % to 90 %	700 hPa to 1 060 hPa

- Do not expose to direct sunlight for a long period of time.
- Do not place in an unstable location.
- Do not use with a base of Camera cable bent.
- When using a product that has not been used for a long period of time, you must check that it operates normally and safely before use.

Troubleshooting

Even if it appears that something is malfunctioning, it might be quickly fixed with a small operation or careful attention. Before ordering repairs from a dealer, check the following items.
If the condition does not improve, contact the dealer where the product was purchased.
If you are not sure on how to use the software, refer to the software Operating Instructions (PDF file).

Question	Answer
The power cannot be turned on	• Check that the power plug is securely inserted all the way to its base into the electrical outlet. • Check whether the DC plug of the AC adaptor is securely inserted into the DC IN terminal of the Cable box. • Check that the Camera cable is securely inserted into the Cable box.
The power turns off unexpectedly	• If there is no button operation for 5 minutes, the power will automatically turn off. (Automatic power off) Time until the power is turned off automatically is different depending on the status of usage. (P. 13)
Moving pictures do not appear on the TV monitor	• Check that the power plug of the TV monitor is securely inserted all the way to its base into the electrical outlet. • Check that the Video cable is securely inserted into the Cable box and the TV monitor.
Moving pictures do not appear on the PC screen	• Check that the main screen of Dental@i Viewer is displayed on the PC. • Check that the USB cable is securely inserted into the Cable box and the PC.
Images are not clear	• Check that the Disposable cover is not dirty. • Check that the lens cover glass is not dirty.
Does not work the auto focus feature (Live mode)	• Is FOCUS set to Auto focus mode? (P. 14)
The mode does not switch to Playback mode	• When connected to a PC, there is no Playback mode. • The image has not been saved.
The LED light cannot be turned off	• In Special mode, the LED light cannot be turned off.

Specifications

General

Usage conditions: ambient temperature / relative humidity / atmospheric pressure	Ambient temperature: 5 °C to 35 °C (41 °F to 95 °F) Relative humidity: 10 % to 80 % Atmospheric pressure: 700 hPa to 1 060 hPa
Storage and transport conditions: ambient temperature / relative humidity / atmospheric pressure	Ambient temperature: —10 °C to 60 °C (14 °F to 140 °F) Relative humidity: 0 % to 90 % Atmospheric pressure: 700 hPa to 1 060 hPa
Protection against electric shock classification	Class II equipment
Applied part classification	Type BF applied part

Power consumption (With the Cable box)	DC 5 V 0.7 A AC adaptor input: 9.5 VA − 13.5 VA (AC 100 V − 240 V)

Camera handpiece

Main unit dimensions	237 mm × 29 mm × 36 mm (length × width × height) [9.33″ × 1.14″ × 1.42″ (length × width × height)]
Mass	Approx. 210 g (with Camera cable) [Approx. 0.46 lbs.]
Signal system	EIA standard: NTSC color signal
Imaging device	1/6″ CCD 680 000 pixels
Effective pixels	350 000 pixels
Lens	5-group 6-element Auto Iris installed Open F-number 4.0
	Focal length 2.1 mm (35 mm film equivalent: 39.5 mm)
Focus method (auto)	Video image contrast detection
	Focus range: 0 mm to ∞ (Live mode)
Focus method (manual)	Live mode: zone focus 3 areas Special mode: None
LED light	White LED 4 lights
Stabilization correction	Still picture: High-speed electronic shutter Moving picture: Electronic stabilization correction
Camera cable length	2 m [6.6 ft]
IP Code	IPX0

Cable box

Dimensions		99 mm × 54 mm × 30 mm (length × width × height) [3.90″ × 2.13″ × 1.18″ (length × width × height)]
Mass		Approx. 65 g [Approx. 0.14 lbs.]
Video image output (USB connection)		Standard: USB2.0 (Isochronous transfer)
Video image output (TV connection)		Standard / format: NTSC 1.0 V [P−P] 75 Ω
Terminal	CAMERA	Special jack
	USB	USB Mini-B jack Hi-Speed (USB2.0)
	VIDEO	RCA pin jack
	DC IN	DC jack (DC 5 V)

AC adaptor

Rated input power	AC 100 V – 240 V 50 Hz/60 Hz
DC output	DC 5 V 1.2 A
Input capacitance	0.17 A – 0.10 A

Dimensions	103 mm × 61 mm × 31 mm (length × width × height) [4.06″ × 2.40″ × 1.22″ (length × width × height)]
Mass	Approx. 200 g [Approx. 0.44 lbs.]
DC cord length	3 m [9.8 ft]

EMC Relevant Information

1. The Intraoral Camera needs special precautions regarding EMC and needs to be installed and put into service according to the following EMC information.
2. The portable and mobile RF communications equipment can affect the Intraoral Camera.
3. WARNING: The Intraoral Camera should not be used adjacent to or stacked with other equipment. If adjacent or stacked use is necessary, the Intraoral Camera should be observed to verify normal operation in the configuration in which it will be used.
4. WARNING: The uses of accessories, transducers and cables, with the exception of transducers and cables sold by the manufacturer as replacement parts, may result in increased emissions or decreased immunity of the Intraoral Camera.

Guidance and manufacturer's declaration - electromagnetic emissions		
The Intraoral Camera is intended for use in the electromagnetic environment specified below. The customer or the user of the Intraoral Camera should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment - guidance**
RF emissions CISPR 11	Group 1	The Intraoral Camera uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The Intraoral Camera is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Complies	

Guidance and manufacturer's declaration - electromagnetic immunity			
The Intraoral Camera is intended for use in the electromagnetic environment specified below. The customer or the user of the Intraoral Camera should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidance**
Electrostatic discharge (ESD) IEC 61000-4-2	± (2, 4, 6) kV contact ± (2, 4, 8) kV air	± (2, 4, 6) kV contact ± (2, 4, 8) kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/ output lines	± 2 kV for power supply lines ± 1 kV for input/ output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV differential mode ± 2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5 % U_T (>95 % dip in U_T) for 0.5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles <5 % U_T (>95 % dip in U_T) for 5 sec	<5 % U_T (>95 % dip in U_T) for 0.5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles <5 % U_T (>95 % dip in U_T) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the Intraoral Camera requires continued operation during power mains interruptions, it is recommended that the Intraoral Camera be powered from an uninterruptible power supply or a battery.
Power frequency (50 Hz/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE U_T is the a.c. mains voltage prior to application of the test level.			

EMC Relevant Information − Continued

Guidance and manufacturer's declaration - electromagnetic immunity			
The Intraoral Camera is intended for use in the electromagnetic environment specified below. The customer or the user of the Intraoral Camera should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment - guidance**
			Portable and mobile RF communications equipment should be used no closer to any part of the Intraoral Camera, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance**
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms	$d = 1.2\sqrt{P}$
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	$d = 1.2\sqrt{P}$ 80 MHz to 800 MHz $d = 2.3\sqrt{P}$ 800 MHz to 2.5 GHz where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,[a] should be less than the compliance level in each frequency range.[b] Interference may occur in the vicinity of equipment marked with the following symbol:
NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.			
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			
[a] Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the Intraoral Camera is used exceeds the applicable RF compliance level above, the Intraoral Camera should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the Intraoral Camera. [b] Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.			

Recommended separation distances between portable and mobile RF communications equipment and the Intraoral Camera			
The Intraoral Camera is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Intraoral Camera can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Intraoral Camera as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1.2\sqrt{P}$	80 MHz to 800 MHz $d = 1.2\sqrt{P}$	800 MHz to 2.5 GHz $d = 2.3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.			
NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies. NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union.
If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

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